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An Instruments to Develop Cashless in Malaysia

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Abstract

This study aims to apply the technology assessment (TA) model on e-banking perceptions in the context of Malaysia, which involves aspects of supply and demand, and increasing the cashless concept in the country. A sample of 470 respondents were randomly selected from high density state capitals and major cities, through the convenience sampling method. Respondents were requested to complete a questionnaire developed from the basic model by forming UTAUT constructs, including quality, skills, transaction costs, user satisfaction, role of service providers (banks), and the influence of environment. Based on the results obtained, the model suggests that transaction costs, as direct costs by service providers, have a significant impact on the overall assessment of the performance of retail e-banking. Data analysis was performed using structured equation modeling (SEM), with the use of AMOS V22 as a method of trajectory analysis.

Keywords: technology, SEM, performance, e-banking.

1. Introduction

E-Banking use was initiated July, 2001 in Malaysia. At this time, Bank Negara Malaysia provided approval to commercial banks to launch e-banking as a platform for consumer transactions. The e-banking revolution, according to Sharma (2011), is a tool for banks to attract and retain customers. It is related to the competition among commercial banks, where consumers have the ability to become bankers, since diversity in e-banking for consumers is beyond conventional banking boundaries. Martin et al. (2013) and Lee et al. (2010) performed empirical research to identify positive and negative factors to accelerate e-banking, but their model was restricted and focused research-based on acceptance. Several studies in the related literature aim identify factors that can accelerate e-banking as a consumer transaction method,

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in order to decrease the number of users using cash as an instrument. The objective of this research is to identify instruments between demand and supply factors in our model, which would help to accelerate cashless platforms such as e-banking in Malaysia.

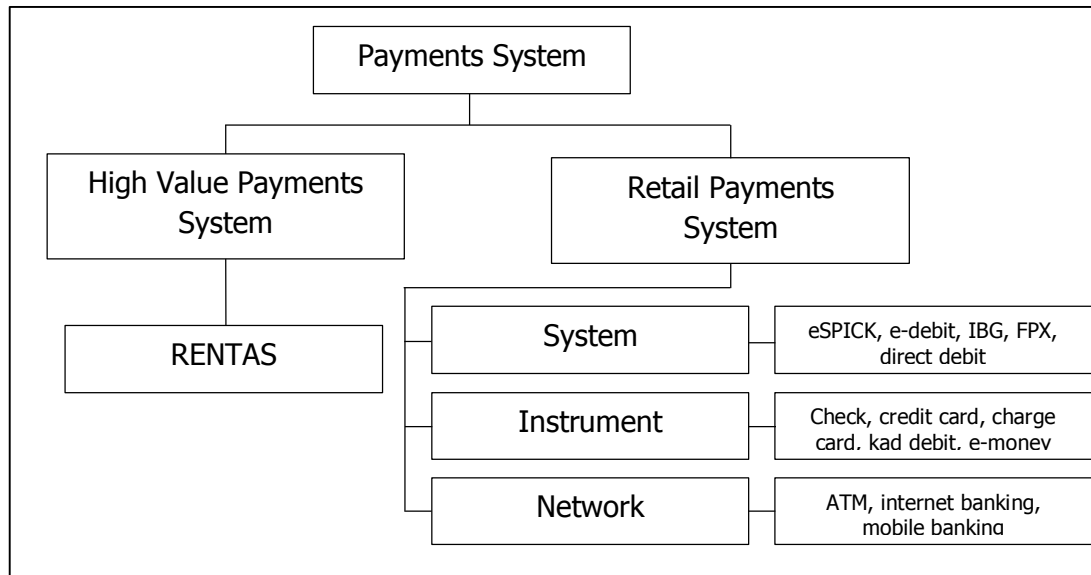


Figure 1: Payments System in Malaysia

Source : Bank Negara Malaysia, 2013

In Malaysia, payment systems are classified under two methods: RENTAS and Retail Payment Systems. This study focuses on retail payments systems in networks as instruments. ATMs, internet banking and mobile banking are transaction methods that do not involve cash. The modern industry, by contrast, is marked by the invention and use of new technology, and e-finance is one such tool.

2. Literature Review

E-finance platforms have become increasingly popular once research started to focus on consumer acceptance toward this new method of finance over conventional methods. Davis (1989) used to identify consumer acceptance using the Technology Acceptance Model (TAM), and extended it to TAM-3. TAM is more focused on consumer perceived usefulness and perceived ease of use, but it is not related to the system functions of e-banking. Lee et al. (2010) revealed that there was less acceptance in Taiwan because skilled computer users had a high correlation to the increased number of acceptance users, mainly due the lack security in e-banking.

The integration of the TAM had an impact on inter-relationship between consumers and service providers based on previous research (Kolodinsky et al., 2004; Venkatesh et al., 2003).

Table 2 : Percentage of Non-Cash Methods in Malaysia.

	2008	2009	2010	2011	2012
Cek	15.9	14.9	14.4	12.5	11.1
Instrument of Payment	74.1	73.5	70.8	70.9	71.8
Credit Card	20	20.1	20.5	19.4	17.7
Charge card	0.4	0.4	0.3	0.2	0.2
Debit Card	0.8	0.8	1.3	1.5	2.0
e-money	52.8	52.2	48.7	49.7	51.9
Network of Payment	7.0	8.2	11.1	12.7	13.1
Internet banking	5.3	6.3	8.4	10.0	10.2
Mobile banking	-	-	-	0.1	0.4
ATM	1.6	1.8	2.7	2.6	2.5

Source: Bank Negara Malaysia, 2013

Poon (2008) found that of 89% respondents agreed to the price for an internet connection, as computers in Malaysia are affordable. In Malaysia, the cost for a computer that connects consumers to bankers is inexpensive. In 2013, BNM agreed to decrease the cost of interbank Giro from RM2.00 to RM0.10 cents for each transaction (BNM, 2013). Zinman (2009) mentioned that consumer have the choice to use cash, card or online transfer, based on acceptance, safety, cost of time and usefulness. The number of users of non-cash methods has increased yearly from 2008 and 2012, as show in Table 2. However, volatility for non-cash methods in Malaysia are much more stable yearly for ATM and e-banking, even though there is restricted access internet in urban areas. Users of conventional methods are 99% compared to the Philippines (96%), Indonesia (84%) and Thailand (78%) (BNM, 2013). Based on the vision of BNM to increase cashless methods in Malaysia, the finance sector launched a platform in 2010, expected to be used from 2011 until 2020.

Courchane et al. (2002) stated that e-banking changed because of competition, laws, and the environment. Increasing internet users is one of the reasons why consumers changed to online methods. In Malaysia, there was a 356.8% increase in e-banking between 2000-2010 (BNM, 2013). As stated in Table 2, the percentage of users of e-banking shows an increase compared to other methods of

payment. Sathye (1999) stated that access to the internet is one factor that influences the acceptance towards e-banking.

Methodology

The study used a quantitative method to develop the UTAUT model, which involves supply and demand data. A sampling method by Cohen (1992) was adopted. Respondents who have participated in this research are from the capital city for each state in Malaysia, since previous studies (Murillo et al., 2010) mention that the geography factor plays an important role in justifying user acceptance towards e-banking. Yuen and Yeow (2009) mention that a capital city has more prospect in e-banking compared to rural areas. Five indicators as an instruments were used in this study, to identify the factors that impact users to change to cashless banking methods in Malaysia. The indicators come from the UTAUT model by Venkatesh et al. (2003), with adjustment as recommended by Lee et al. (2010) and Qingfei et al. (2008). Quality, skills, environment, banks, and cost of transaction were the five indicators applied in the proposed model. Yahya et al. (2012) developed and used the UTAUT as a platform technology acceptance model to investigate consumer behavior.

3. Data Analysis

Data for this study were collected from a total of 800 questionnaires that were distributed across Malaysia in March, 2015. The feedback rate was 58.75%, which corresponds to cumulative 470 respondents. Cohen (1992) based their model on the G*Power analysis sample, which fulfils a minimum requirements: effect size = 0.15 (medium), statistical inference = 0.95, Delta = 8.39, and critical t = 6.72. Income plays an important role in this research. We found that the percentage of respondents with a monthly salary of less than RM2,000 was 51.4%; RM2,000 – RM4,000 was 39.2%, and more RM4,000 was 9.4%.

Structural Equation Model (SEM)

CFA-SEM was used in this research to find the relations between instruments and performance of cashless banking methods in Malaysia. Timothy (2011) suggested that a suitable model for SEM sample sizes should be 100-150; while Schumacker and Lomax (2010) mentioned that the N statistic > 200 is suitable for SEM. The

variance for each instrument is as follows: quality (62%), cost (56.3%), bank (54.8%), skills (48.8%) and environment (52.1%). In path analysis conducted by SEM, our model must be justified to have fulfilled the minimum requirements from previous research (Hair et al. 2010; Zainuddin 2014).

Table 3: Analysis Confirmatory Model

Categories Index	Index	Level of Acceptance	Value	Comments
Absolute Index	Chisq	$p > 0.05$	0.000	Level requirements achieved
	RMSEA	< 0.08	0.076	Level requirements achieved
Incremental Fit	CFI	> 0.90	0.935	Level requirements achieved
	TLI	≈ 1	0.922	Level requirements achieved
	NFI	≈ 1	0.914	Level requirements achieved
Parsimonious fit	CMIN/df	< 5	3.725	Level requirements achieved

The theoretical model should have a measurement validity, based on three types of indices. Zainuddin (2014) mentioned that there is no restriction to justify which index is suitable to validate a model. However, Hair et al. (2010) provides choices on which index can be used to justify the model. The confirmatory model in Table 3 shows that the minimum requirements were achieved, based on three (3) categories of indices. The absolute index: Chi-square is 0.00 and RMSEA is less than 0.08, with a value of 0.076. This index is used for validity measurement in structural models based, as mentioned by Hair et al. (2010). The analyses shows that the value of TLI (0.922) and NFI (0.914) achieved over 0.9, and are thus at suitable value (Hair et al., 2010). The findings reveal that CMIN/df in parsimonious fit achieved a value less than 5 (3.725).

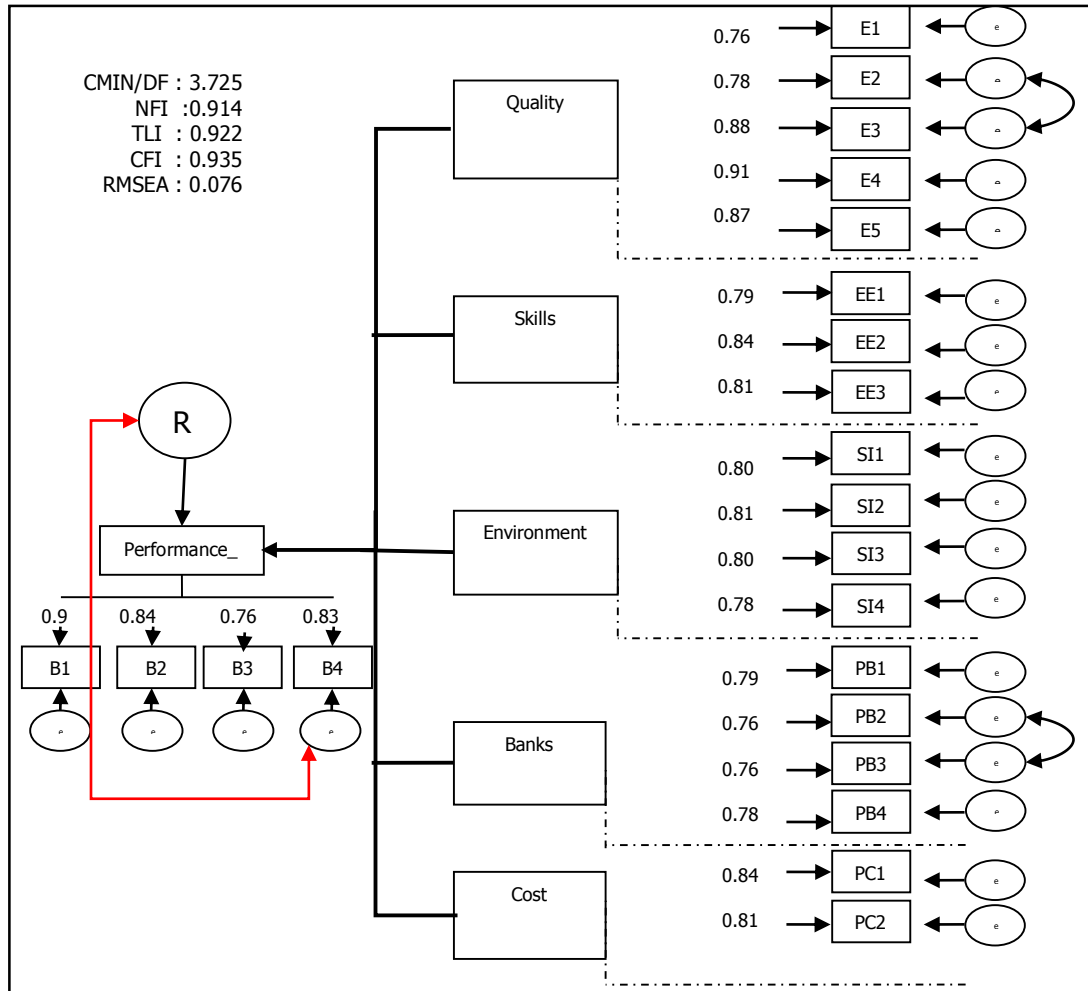


Figure 4: Result Path Analysis.

Figure 4 shows the model after adjustment to give higher reliability and validity, as recommended by Hair et al. (2010). Results of the path analysis confirm the loading to be more than 0.5. This shows a causal relationship between the factor analysis and the dependent variable. Results from the SEM analysis show only the cost factor as significant and having an impact to increase cashless banking methods in Malaysia. Our model is based on Zainuddin (2014), who removed one or two items that correlate in a new model and increase the value of RMSEA. In this research, the correlation between factors are e-24 and R1, e9-e8 and e20 and e21. The results are shown in Figure 4.

Table 5: Result Hypothesis Testing

Construct	Unstandardized Path Coefficients (β)	Critical Value (CR)	Regression Weights	P-Value	Hypothesis
Quality	0.122	1.29 (<1.96)	0.077	0.19	Rejected
Skills	0.010	0.07 (<1.96)	0.060	0.95	Rejected
Environment	0.073	0.172 (<1.96)	0.042	0.863	Rejected
Banks	0.298	0.869 (<1.96)	0.176	0.385	Rejected
Cost	0.539	2.516 (>1.96)	0.326	0.012	Accepted

Table 5 shows the analysis results where the path analysis shows that the cost instrument directly impacts increasing cashless methods, ($\beta=0.539$, $p<0.05$; $CR>1.96$).

- i. Quality ($\beta=0.122$, $p>0.05$; $CR<1.96$),
- ii. Skills ($\beta=0.010$, $p>0.05$; $CR<1.96$),
- iii. Environment ($\beta=0.073$, $p>0.05$; $CR<1.96$),
- iv. Banks ($\beta=0.298$, $p>0.05$; $CR<1.96$).

The correlation for each construct is higher than expected, where the value is more than 0.70: quality and skills (0.813); quality and bank (0.736); cost and quality (0.762); skills and environment (0.819); skills and bank (0.821); cost and skills (0.800); cost and environment (0.897); and cost and bank (0.815). Chua (2014) mentioned a correlation of (r) 0.91 to 1.0 is very high, 0.71 to 0.90 is high and 0.6 and below is weak and needed adjustment in the model. In this research, the costs instrument, such as direct costs, which refers to each consumer transaction, shows a positive relationship to develop cashless methods in Malaysia.

4. Findings and Conclusion

The study also confirmed that consumers emphasize direct costs versus indirect costs as on-line financial activities featured management costs compared to the conventional methods, in which indirect costs are typically higher and are ignored by respondents. In conclusion, the creation of an innovative society with direct

implications for the existence of more economical costs for consumers is based on the direct costs of e-retail banking activities. Cost in this research focused on direct costs for each consumer transaction, after users are active in using e-banking systems. We conclude that, the cost instrument is the most likely to increase cashless methods in Malaysia, although Bank Negara Malaysia has announced that cost transactions have decreased to more than 95%, but this still has an impact on consumers. As a suggestion to improve cashless methods in Malaysia, banks should not charge for direct costs.

Overall, the study describes the model variance (81%) in the evaluation of the performance of e-banking. This study has important theoretical and practical contributions that describe the performance assessment of retail banking technology in the context of Malaysia. Therefore, the assessment of technology is able to describe the performance levels established by users in terms of the strengths and weaknesses of the country in planning for the creation of an innovative society.

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